

WHAT IS CLAIMED IS:

1. A vehicle head lamp apparatus comprising:

a light distribution control means for controlling  
an irradiation direction or an irradiation range of light  
5 sent from a light source;

a rotation drive means having a drive motor which  
drives the light distribution control means;

a rotation range detection means for detecting a  
rotation range of the drive motor; and an  
10 abnormality judgment means for judging an  
abnormality of the rotation drive means according to a  
rotation range of the drive motor detected by the  
rotation range detection means when the rotation drive  
means is driven in a predetermined condition.

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2. A vehicle head lamp apparatus according to  
claim 1, wherein the abnormality judgment means judges an  
abnormality under the predetermined condition by  
comparing a rotation range, which is obtained when the  
20 drive motor is rotated in one direction and then rotated  
in the opposite direction, with a predetermined rotation  
range.

3. A vehicle head lamp apparatus according to  
25 claim 1, wherein the abnormality judgment means judges an

abnormality under the predetermined condition by comparing one of the rotation ranges, one range is obtained when the drive motor is rotated in one direction and the other rotation range is obtained when the drive  
5 motor is rotated in the opposite direction, with a predetermined rotation range which is previously set, and when the rotation range is larger than the predetermined rotation range which is previously set, the rotation is judged to be abnormal.

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4. A vehicle head lamp apparatus according to claim 1, wherein the abnormal judgment means repeats a judgment motion when it has judged an abnormality.

15 5. A vehicle head lamp apparatus according to claim 1, wherein the rotation range detection means includes a sensing element which outputs pulse signals in response to the rotation of the drive motor, and an up-down counter which counts number of the pulses.

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6. A vehicle head lamp apparatus according to claim 5, wherein the abnormality judgment means judges an abnormality by comparing a rotation range with a predetermined rotation range, the rotation range is  
25 obtained from a first counting number of the up-down

counter when the drive motor is rotated in one direction and a second counting number of the up-down counter when rotated in the opposite direction.

5           7. A vehicle head lamp apparatus according to claim 1, wherein when it is judged as abnormal condition, the head lamp is deflected and fixed at a maximum deflection angle.

10           8. A vehicle head lamp apparatus according to claim 1, wherein when it is judged as abnormal condition, the head lamp is directed forward.

15           9. A vehicle head lamp apparatus according to claim 1, wherein when it is judged as abnormal condition, the head lamp emit light at a low luminance.